# Rural Women's Health

Nationally, one in three women in the United States resides in a rural area.[1] In Kentucky, over one in two women reside in a rural area. With over 80 percent of Kentucky's 120 counties being classified as rural and the majority of Kentucky's women living in rural communities (Fig. 1), it is important that we discuss the unique health challenges facing rural women. (see Appendix D for listing of rural counties)

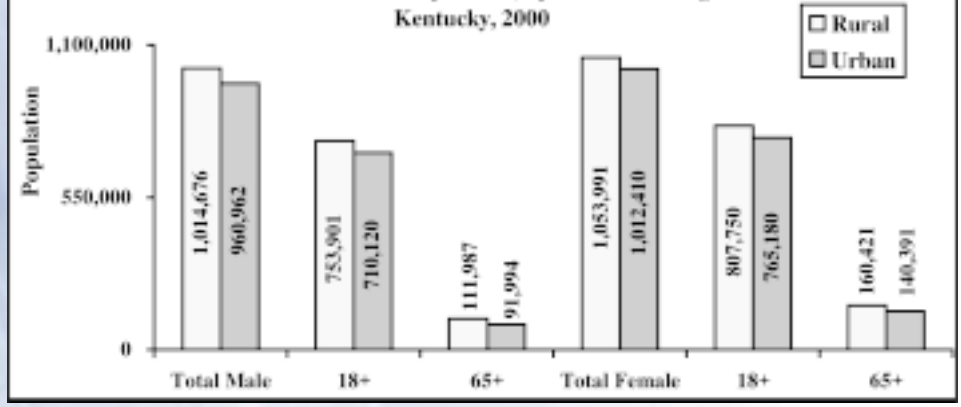
Rural and urban residence is an important variable in determining a woman's health and economic status. Comparing rural and urban women in regard to access to health care, rates of uninsured, behavioral health risks, morbidity, and mortality, helps assess the disparities between these two groups. Kentucky, while rich in its rural heritage, must address the inequities and focus on improving the health status of all its women, particularly the most vulnerable women residing in rural areas.

## Access to Care

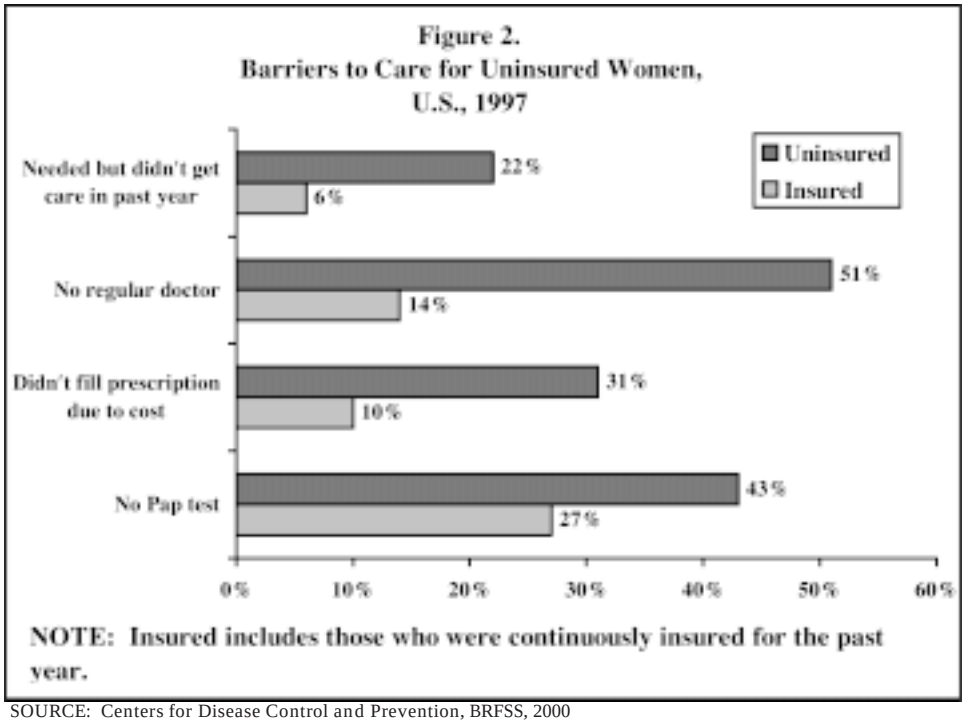
Access to care includes access to, and the affordability of, appropriate health care services. Many times, it refers to access to health insurance, as well as, access to hospitals and trained health care professionals. Access to health insurance coverage is a significant factor in determining a woman's decision to seek regular and preventive health care. Women without insurance often do not seek needed care and will forego costly prescriptions. (Fig. 2) Employer-based health insurance is, by far, the largest source of insurance coverage for Kentucky women between the ages of 19 and 64. (Fig. 3) The second leading insurer of women in Kentucky is Medicaid.

Women, traditionally, have comprised the majority of

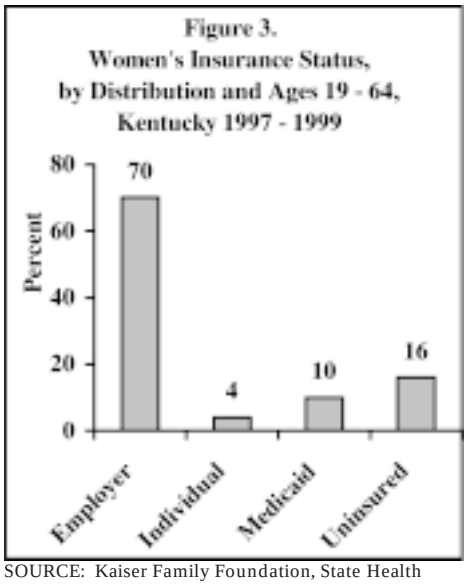
Figure 1.
Rural and Urban Population, by Gender and Age
Kentucky, 2000




SOURCE: Kentucky Population and Housing Data, 2000 Census

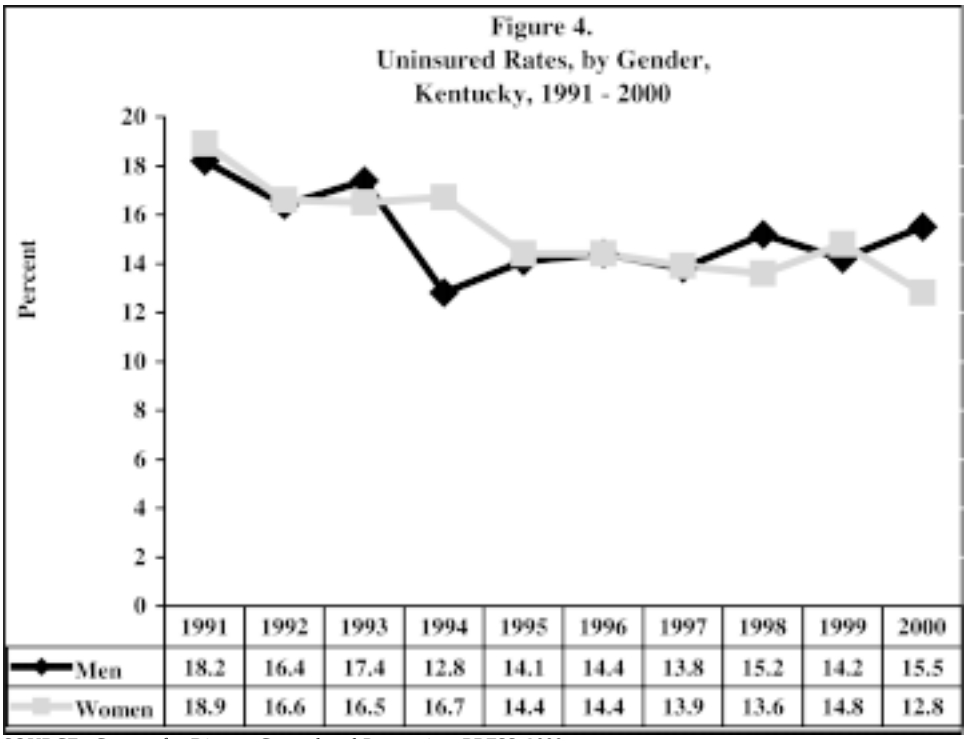



SOURCE: Centers for Disease Control and Prevention, BRFSS, 2000




SOURCE: Kaiser Family Foundation, State Health Facts Online, "Distribution of Women 19-64 by Insurance Status, 1997 – 1999

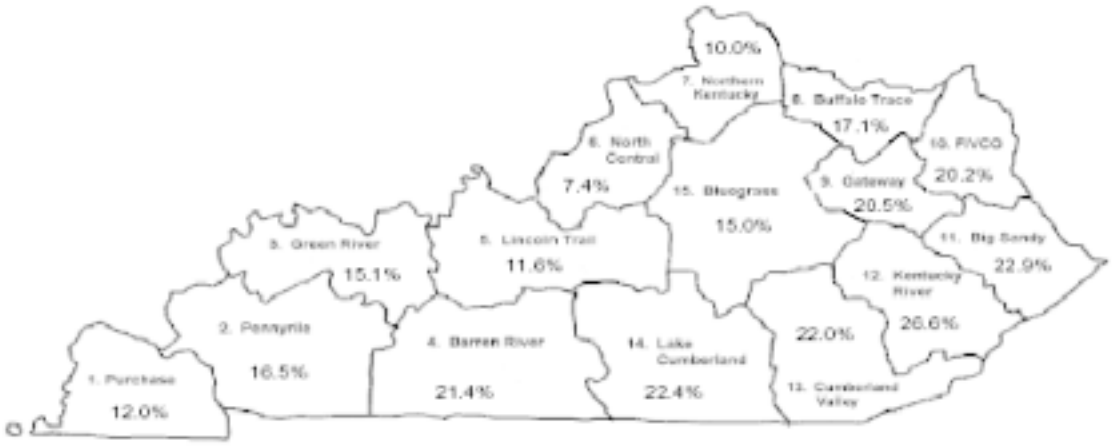
public funding for health care (primarily through the Medicaid program), thus they have lower rates of uninsurance than men. For Kentucky, the CDC reports that the overall rate of uninsured women and men has been declining since the early1990s, having dropped from 19 percent in 1991 to 13 percent in 2000. (Fig. 4) According to Kentucky BRFSS data, insurance coverage among Kentuckians varied significantly by region, with a greater prevalence of lack of health care coverage in Eastern Kentucky, which is predominately rural. The Kentucky River district had the highest rate with 26.6 percent of the population lacking insurance coverage, versus a low of 7.4 percent in North Central Kentucky.[2] (Fig. 5)




| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|---|---|---|---|---|---|
| Men | 18.2 | 16.4 | 17.4 | 12.8 | 14.1 | 14.4 | 13.8 | 15.2 | 14.2 | 15.5 |
| Women | 18.9 | 16.6 | 16.5 | 16.7 | 14.4 | 14.4 | 13.9 | 13.6 | 14.8 | 12.8 |

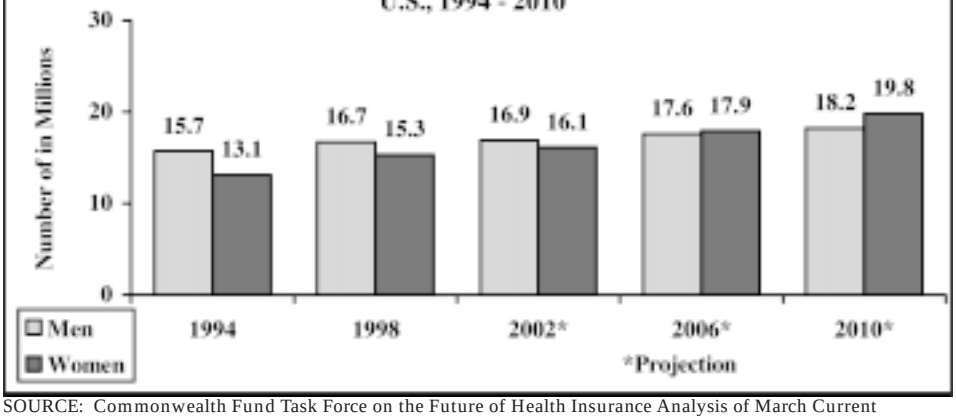
SOURCE: Centers for Disease Control and Prevention, BRFSS, 2000

**Figure 5.**
**Prevalence of Lack of Healthcare Coverage, Adult Men and Women,**
**Kentucky Behavioral Risk Factor Surveillance System**
**Area Development District Averages, 1997-1999**




SOURCE: Kentucky Department for Public Health, "Kentucky Health Behavior Trends: 1997 – 1999"

**Figure 6.**
**Projected Number of Uninsured Women,**
**U.S., 1994 - 2010**

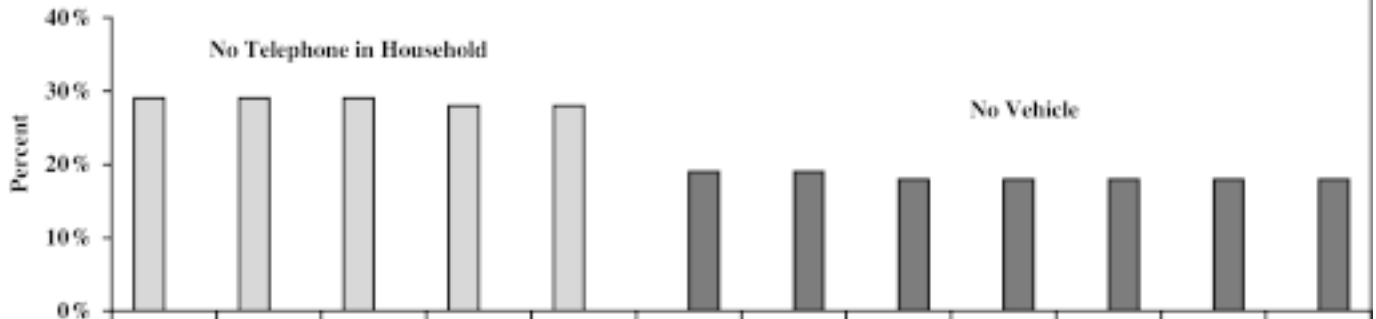



SOURCE: Commonwealth Fund Task Force on the Future of Health Insurance Analysis of March Current Population Survey from 1995 – 2000

Nationally, the pattern of insurance coverage is changing. According to The Commonwealth Fund, should coverage trends continue, the number of uninsured women may actually surpass the number of uninsured men in less than five years.[3] (Fig. 6)

For many women in rural Kentucky, access also includes having transportation to the appropriate health care provider, a telephone to call and make an appointment and having adequate child care arrangements. A study con-

**Figure 7.**
**Lack of Telephone and Vehicle, by Counties with Highest Rates,**
**Kentucky, 1997**




| | Clay | Lee | Powell | Owsley | Clinton | Wolfe | Bell | Breathitt | Harlan | Knox | Magoffin | Perry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No Telephone | 29% | 29% | 29% | 28% | 28% | | | | | | | |
| No Vehicle | | | | | | 19% | 19% | 18% | 18% | 18% | 18% | 18% |

SOURCE: University of Kentucky Chandler Medical Center, Center for Rural Health, Funded by the Good Samaritan Foundation, Based on *1997 County Health Profiles*

ducted in 1997, by the University of Kentucky Center for Rural Health, found that in some rural counties, approximately 29 percent of households had no telephone and 19 percent had no vehicle. (Fig. 7)

## Socioeconomic Status of Rural Women

While rural residents must often deal with geographical barriers to health care, they also tend to consist disproportionately of elderly people, people with lower incomes and more poverty, low educational levels and higher rates of uninsured, all factors that correlate with a poorer health status. These factors also influence the socioeconomic status (SES) of women in rural regions of the state. SES, which refers to an individual's or family's relative economic and social ranking,[4] is a powerful predictor of health status throughout the lifespan. Women are more likely than men to be of lower SES.[5]

Kentucky women in rural areas are especially challenged by their lack of access to high-wage earning employment. The majority of women with household incomes less than $15,000 annually report having fair to poor health. Conversely, the majority of women in Kentucky with annual household incomes of greater than $50,000, report their health status as very good to excellent. (Fig. 8)

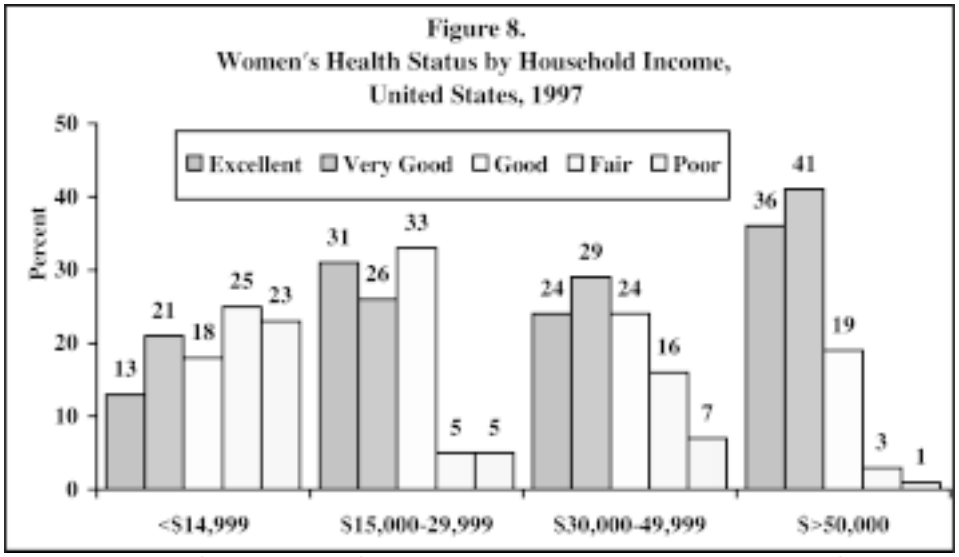



**Figure 8.**
**Women's Health Status by Household Income, United States, 1997**

SOURCE: University of Kentucky, Center for Health Services Management and Research Policy Brief, "Kentucky Women's Health: Data from the 1997 Kentucky Health Survey," November 1998, Vol. 1/Issue 2

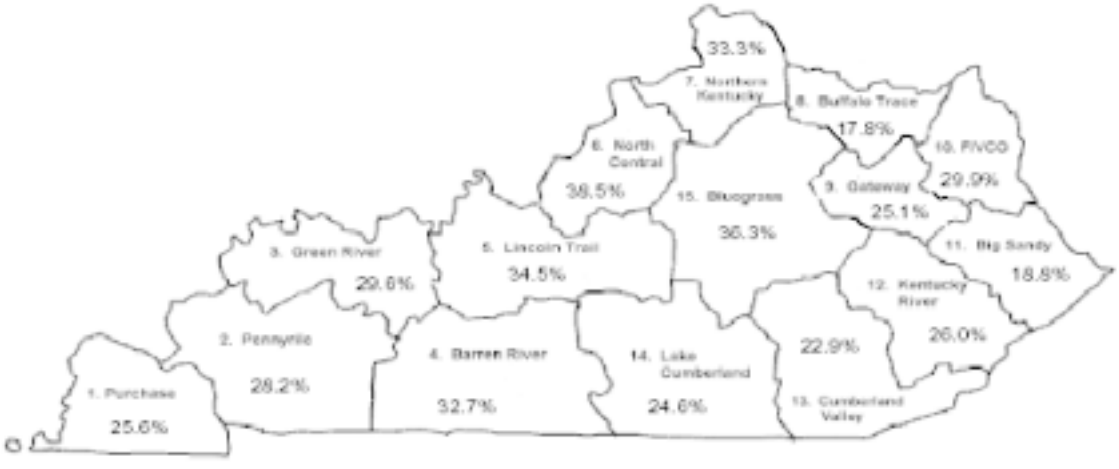
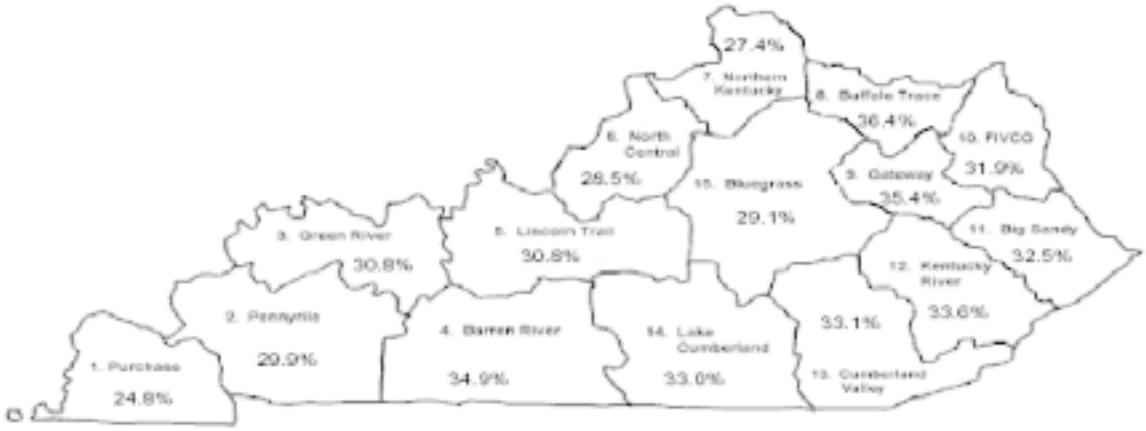



**Figure 9.**
**Prevalence of Physical Activity, Adult Men and Women, Kentucky Behavioral Risk Factor Surveillance System Area Development District Averages, 1997-1998**

SOURCE: Kentucky Department for Public Health, "Kentucky Health Behavior Trends: 1997 – 1999"

**Figure 10.**
**Prevalence of Current Smokers, Adult Men and Women, Kentucky Behavioral Risk Factor Surveillance System Area Development District Averages, 1997-1999**




SOURCE: Kentucky Department for Public Health, "Kentucky Health Behavior Trends: 1997 – 1999"

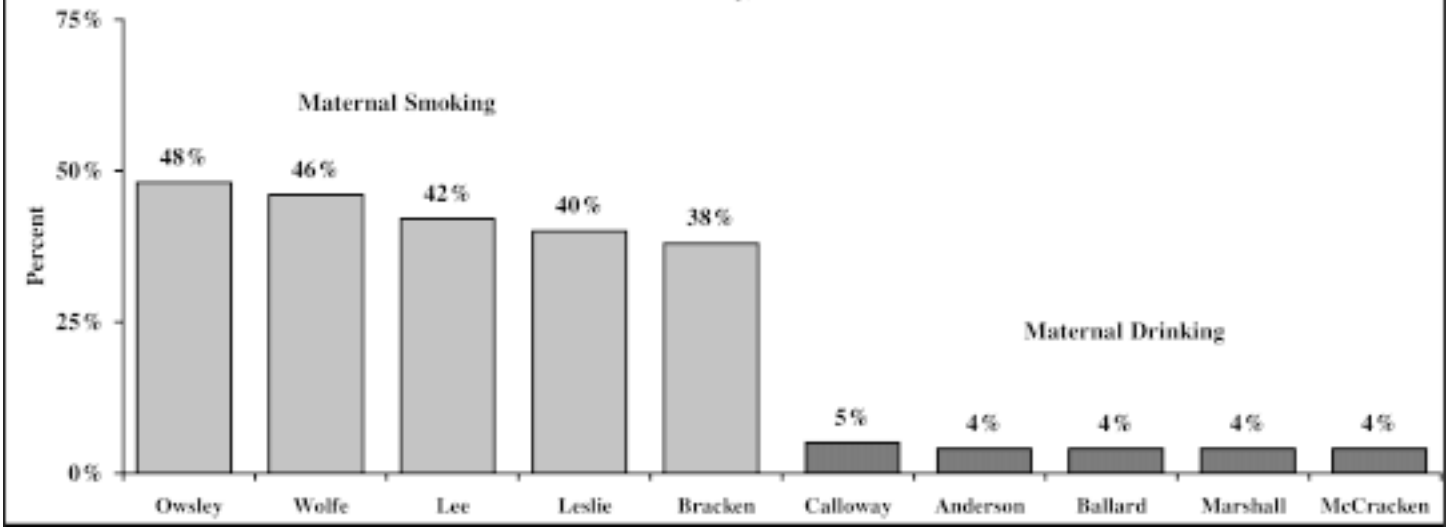
poverty, particularly in the East and Southeastern regions of the state. Overall, Kentucky ranked eighth nationally in 1996 for the percent of children living at or below poverty, at a rate of 25.5 percent.[6]

Low-income women (those with family incomes below 200 percent of poverty) are disadvantaged in their access to health insurance coverage. They are much less likely than higher-income women to have job-based coverage, more likely to be uninsured and more reliant on public sources of coverage.[7]

## Behavioral Risk Factors in Rural Kentucky

While insurance status affects one's access to regular and preventive health care services, it does not necessarily improve one's behavioral risks affecting health status, such as smoking, sedentary lifestyle and poor nutrition. These negative behavioral risk factors tend to be more prevalent in rural portions of the state

**Figure 11.**
**Women Who Smoked or Drank During Pregnancy, by Counties with Highest Prevalence Kentucky, 1997**




SOURCE: University of Kentucky Chandler Medical Center, Center for Rural Health, Funded by the Good Samaritan Foundation, Based on *1997 County Health Profiles*

than urban. Rates of physical activity are lowest in the East and Southeast portions of the state, versus the highest rates in Central and Northern Kentucky.[8] (Fig. 9) Smoking, the number one preventable cause of death, is high in all counties in Kentucky, yet it is more prevalent in rural South and Eastern Kentucky. [9](Fig. 10)

Smoking during pregnancy is another behavioral risk factor that affects not only the health of the mother, but also the developing fetus. With overall smoking rates highest in the most rural regions of Kentucky, it is no surprise that smoking during pregnancy is also highest in these regions. The county with the highest reported prevalence of maternal smoking was Owlsey, with nearly half of all pregnant women smoking in 1997. Drinking during pregnancy, though less prevalent, is also a significant risk factor for both mother and baby. Calloway county in Western Kentucky had the highest reported prevalence of maternal drinking at five percent. (Fig. 11)

## Chronic Disease in Rural Kentucky

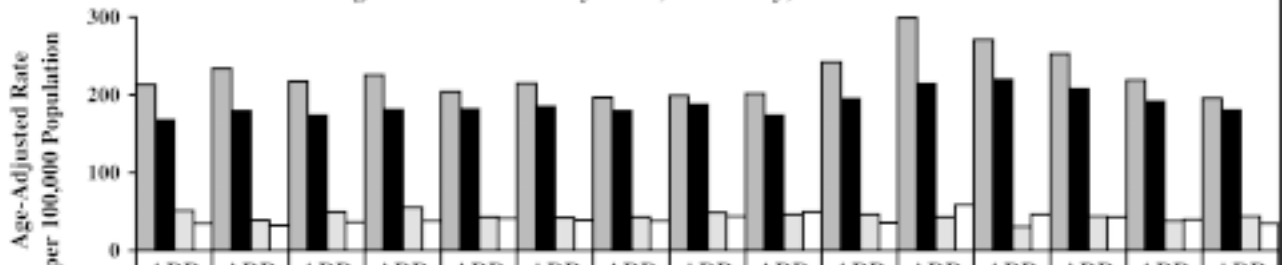
Negative behavioral risk factors contribute to increased morbidity and mortality rates for chronic diseases, particularly in rural areas of the state where negative behavioral risk factors are highest. Hospitalizations are one measure of morbidity in which we can compare rural and urban utilization. Excluding obstetric care admissions, the three leading causes for hospitalizations (as defined by Diagnostic Related Groups-DRG) for all women in Kentucky in 2000 was heart failure and shock, COPD, and pneumonia. (Fig. 12)

**Figure 12.**
**Top Ten DRG's for Females, by Rural/Urban, Kentucky, 2000**

| Clinical – DRG (Ranked by DRG Number) | Service Area: Rural Counties Total Cases | Service Area: Urban Counties Total Cases | Grand Total |
|---|---|---|---|
| 088 – Chronic Obstructive Pulmonary Disease | 6,463 (11.6%) | 3,093 (7.6%) | 9,556 (9.9%) |
| 089 – Simple Pneumonia & Pleurisy, Age >17 with complications | 5,957 (10.7%) | 2,984 (7.3%) | 8,941 (9.2%) |
| 127 – Heart Failure & Shock | 6,131 (11.0% | 3,541 (8.7%) | 9,672 (10.0%) |
| 143 – Chest Pain | 2,937 (5.3%) | 2,326 (5.7%) | 5,263 (5.4%) |
| 182 – Esphgitis, GE, Miscellaneous Digestive Disease, Age >17 with complications | 3,840 (6.9%) | 2,404 (5.9%) | 6,244 (6.5%) |
| 209 – Major Joint/Limb Reattachment Procedure, lower extremity | 2,369 (4.2%) | 2,121 (5.2%) | 4,490 (4.6%) |
| 359 – Uter and Adnex Procedure for non-malignant without complications | 4,677 (8.4%) | 3,466 (8.5%) | 8,143 (8.4%) |
| 371 – Cesarean Section without complications | 4,954 (8.9%) | 4,125 (10.1%) | 9,079 (9.4%) |
| 373 – Vaginal Delivery without complicated diagnoses | 14,016 (25.1%) | 13,401 (32.8%) | 27,417 (28.3%) |
| 430 – Psychoses | 4,583 (8.2%) | 3,401 (8.3%) | 7,984 (8.2%) |
| Total Cases | **55,927 (100%)** | **40,862 (100%)** | **96,789 (100%)** |

SOURCE: Kentucky Department for Public Health, Health Policy Development Branch, 2000 Hospital Discharge File

Figure 13.
Leading Causes of Death by ADD, Kentucky, 1998



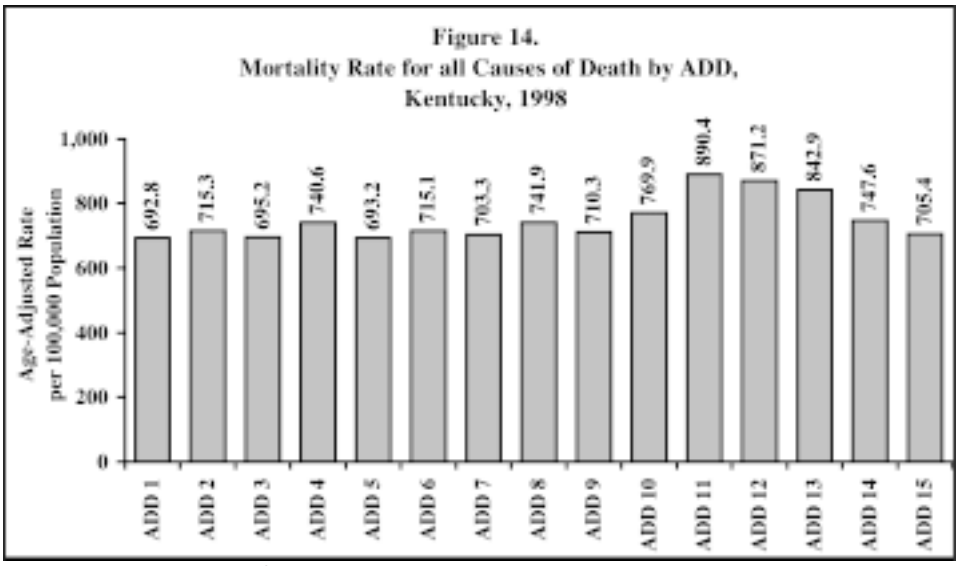

| | ADD 1 | ADD 2 | ADD 3 | ADD 4 | ADD 5 | ADD 6 | ADD 7 | ADD 8 | ADD 9 | ADD 10 | ADD 11 | ADD 12 | ADD 13 | ADD 14 | ADD 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Heart Disease | 213.3 | 233.7 | 217.4 | 225.7 | 204.1 | 214.6 | 196.3 | 199.5 | 201.3 | 242.1 | 299.2 | 271.2 | 252.9 | 218.6 | 195.6 |
| Malignant Neoplasms | 167.9 | 179.6 | 173.4 | 181 | 181.8 | 184.8 | 179.3 | 187.9 | 173.7 | 195 | 214.3 | 219.6 | 207.3 | 191.5 | 180.1 |
| Cerebrovascular Disease | 51.6 | 38.8 | 49.8 | 55.7 | 43.3 | 41.9 | 43.3 | 49.2 | 46.4 | 46.5 | 43.3 | 31.1 | 43.6 | 38.3 | 43.8 |
| COPD | 34.9 | 32.2 | 36.6 | 38.3 | 41.6 | 39.4 | 38.2 | 43.9 | 49.9 | 35.4 | 58.4 | 46.5 | 43.5 | 39.7 | 34.9 |

SOURCE: Kentucky Department for Public Health, Health Data and Surveillance Branch, *1998 Kentucky Annual Vital Statistics Report*
* ADD listing included in Appendix D

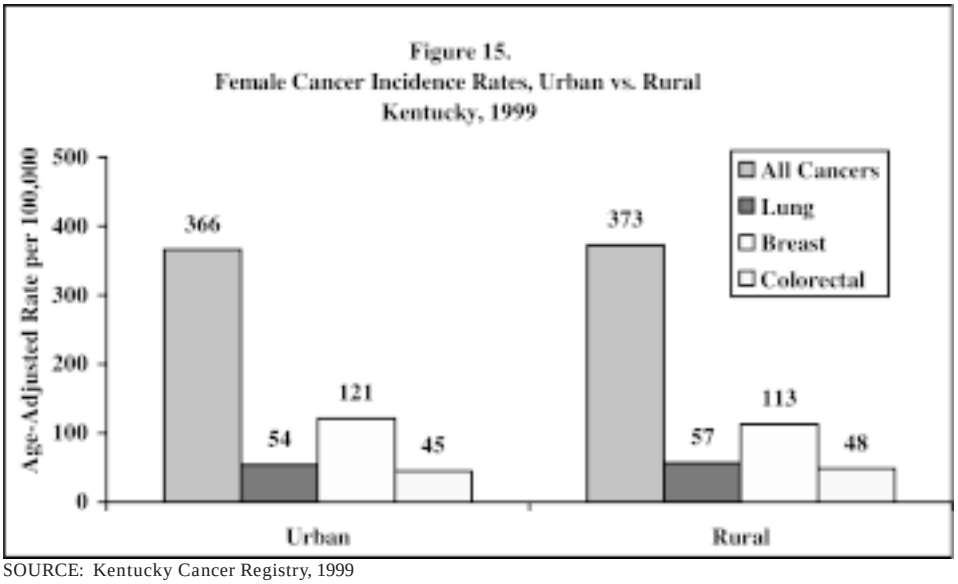
While the percentage of hospitalizations by most DRGs was consistent among both rural and urban women, accounting for approximately the same percentage of total hospitalizations for each group, a disparity existed between rural and urban women hospitalized for COPD, pneumonia, and heart failure. In 2000, 11.6 percent of rural women versus 7.6 percent of urban women were hospitalized for COPD and 10.7 and 7.3 percent of rural and urban women respectively, were hospitalized for pneumonia. Heart failure and shock accounted for 11 percent of rural women's hospitalizations and 8.7 percent of urban women's. Not surprisingly, these conditions are highly correlated to behavioral risk factors, such as smoking and sedentary lifestyle, which tend to be more prevalent among rural women.

Another discrepancy was found among hospitalizations for a vaginal delivery without complications. Fewer rural women are hospitalized with this diagnosis than their urban counterpart (25 versus 38 percent, respectively).

Figure 14.
Mortality Rate for all Causes of Death by ADD, Kentucky, 1998




Source: Kentucky Department for Public health, Health Data and Surveillance Branch, *1998 Kentucky Annual Vital Statistics Report*
* ADD listing included in Appendix D

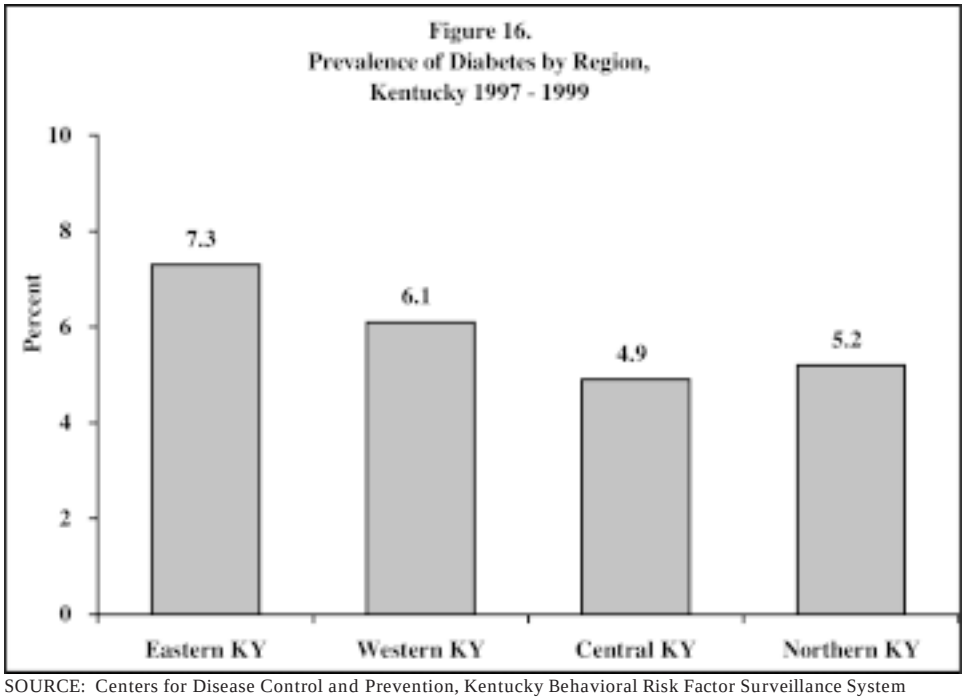


SOURCE: Kentucky Cancer Registry, 1999

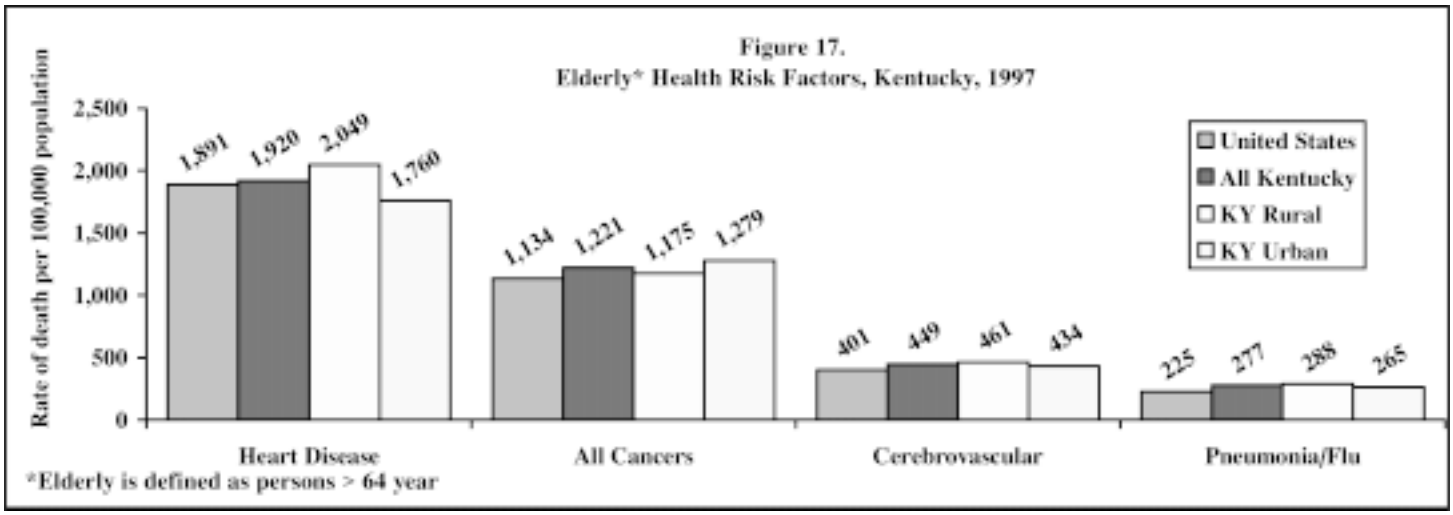
Rural residents (both men and women) tend to suffer disproportionately from chronic diseases such as heart disease, cancer and diabetes. In 1998, ADDs 11, 12 and 13, in rural Eastern Kentucky had the highest reported rates of death due to heart disease and cancer than all other districts in the state. (Fig. 13) (Refer to Appendix D for ADD listing) Mortality rates for all causes were also highest in these ADDs for 1998. The highest mortality rate was in ADD 11 at 890.4 deaths per 100,000 population. The lowest overall mortality rate was for ADD 1 in far Western Kentucky at 692.8 deaths per 100,000 population.[10] (Fig. 14)

Female cancer incidence is also higher in rural Kentucky than urban. (Fig. 15) Rural Kentucky has an overall cancer rate of 373 cases per 100,000 population in 1999, versus 366 for urban Kentucky.[11] Lung cancer, the leading cancer killer, was also higher in rural areas than urban, with an incidence of 57 cases per 100,000 population in rural Kentucky versus 54 in urban Kentucky. Breast cancer is the only leading female cancer that is more prevalent in urban Kentucky than rural, with an urban incidence rate of 121 cases per 100,000 versus 113 for rural Kentucky.

Diabetes rates in Kentucky are also highest in the more rural areas of the state. Eastern Kentucky had the highest diabetes prevalence rate at 7.3 percent (averaged from 1997 – 1999), versus the lowest rate of 4.9 percent in Central Kentucky, which is predominately urban. (Fig. 16)



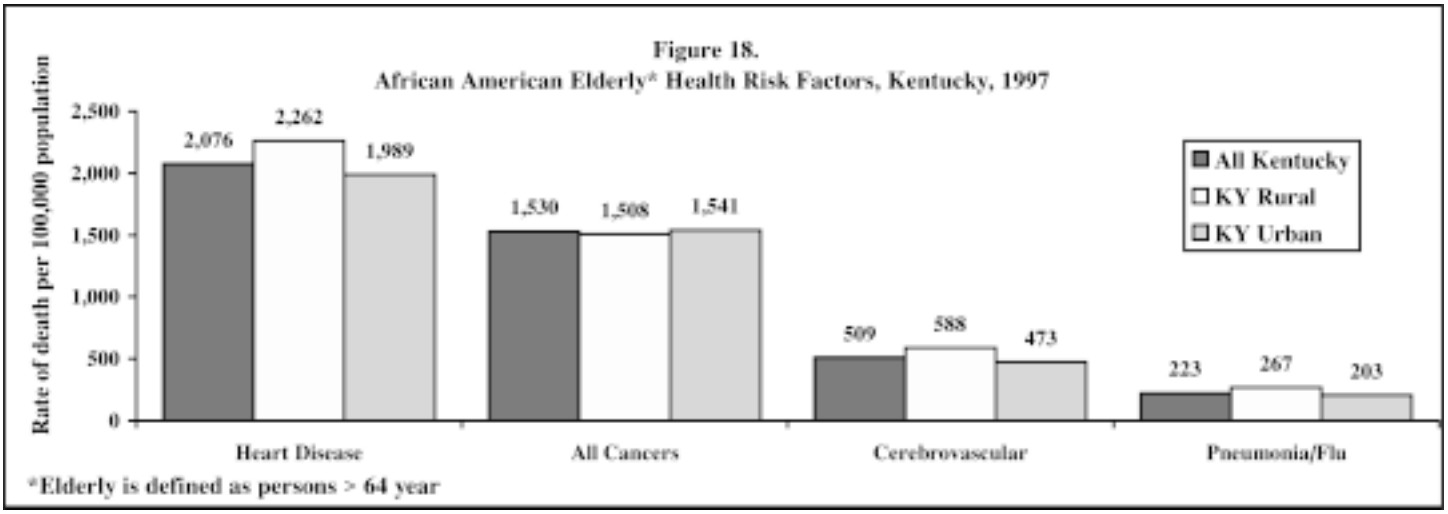
SOURCE: Centers for Disease Control and Prevention, Kentucky Behavioral Risk Factor Surveillance System (BRFSS), 1997 - 1999




SOURCE: University of Kentucky Chandler Medical Center, Center for Rural Health, Funded by the Good Samaritan Foundation, Based on *1997 County Health Profiles*

## Elderly Health Risks: Rural and Urban

The elderly are a vulnerable population in general, but elderly in rural areas tend to suffer more from certain health risks than their urban counterparts. Heart disease, which is higher in rural Kentucky overall, is also higher among rural elderly than the elderly statewide, in urban areas, and in the U.S. overall. The elderly in rural Kentucky also suffer more from cerebrovascular disease and pneumonia/flu.[12] (Fig. 17) This is particularly true among the minority elderly residing in rural areas. Their risks for selected diseases is higher than the elderly population overall. (Fig. 18)




SOURCE: University of Kentucky Chandler Medical Center, Center for Rural Health, Funded by the Good Samaritan Foundation, Based on *1997 County Health Profiles*

# NOTES

[1] American Psychological Association Report *"Executive Summary of the Behavioral Health Care Needs of Rural Women"*, (http://www.apa.org/rural/ruralwomen.pdf).
[2]"Kentucky Health Behavior Trends: 1997 – 1999", Kentucky Department for Public Health, Surveillance and Health Data Branch.
[3] Commonwealth Fund Task Force on the Future of Health Insurrance, Analysis of March Current Population Survey from 1995 - 2000.
[4] Gale Encyclopedia of Childhood and Adolescence, *Socioeconomic Status (SES),* http://www.findarticles.com/cf_dls/g2602/0004/2602000491/p1/article.html.
[5] Marianne Legato, M.D., *"The Changing Position of Women in the Medical Marketplace,"*Columbia University Health Care Forum: The Future Health Care Consumer, Francoise Simon and Lothar Krinke.
[6] US Dept of Commerce, Bureau of the Census, *Poverty in the United States: 1996.* September 1997: 60-198.
[7] *"Falling Through the Cracks: Health Insurance Coverage of Low-Income Women,"* The Kaiser Family Foundation, February 2001.
[8] Kentucky Health Behavior Trends: 1997 – 1999", Kentucky Department for Public Health, Surveillance and Health Data Branch.
[9] Ibid.
[10] Kentucky Department for Public Health, *1998 Kentucky Annual Vital Statistics Report.*
[11] Kentucky Cancer Registry, *1999 Kentucky Cancer Incidence Report.*
[12] University of Kentucky Chandler Medical Center, Center for Rural Health, Funded by the Good Samaritan Foundation, Based on *1997 County Health Profiles.*